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AN EXAMINATION OF INTERNATIONAL TOURISM SALES IN CHINA

Mao-LiangWei

ABSTRACT

This study uses regression analysis to examine the growth in China's international tourism sales for the 1980-1999 period. As such, the relationship between China's international tourism sales and China's inflow of foreign tourists is better understood.

Introduction and Purpose

China has an attractive climate, beautiful scenery, and other excellent tourism resources. China has a well-deserved international reputation for its success in marketing tourism, both as a destination for incoming tourists and as a country generating tourists for overseas destinations. International tourism has become a strong growth industry in China after 1980. This industry has a significant positive contribution toward the GNP of China. This research studied the relationship between the increase in China's international tourism sales, and the increase in foreign tourists in China for the period 1980 to 1999.

Data and Research Methodology

Data were collected from *China Statistics* monthly magazine. Simple and multiple regressions were used to analyze the trend of increase in foreign tourists and increase in China's international tourism sales.

The research was conducted in three steps. Step 1 examined the relationship between the increase in international tourism sales and the increase in overnight tourists using the following regression equation:

$$\text{Sale} = \text{Constant} + B * \text{Overnight}$$

where

$$\text{Overnight} = \% \text{ Increase in foreign tourist overnight}$$

$$\text{Sale} = \% \text{ Increase in international tourism sales}$$

Step 2 examined the relationship between the international tourism sale increase and the increase in foreign tourists using the following regression equation:

$$\text{Sale} = \text{Constant} + B * \text{Person}$$

where

$$\text{Person} = \% \text{ Increase in foreign tourists}$$

$$\text{Sale} = \% \text{ Increase in international tourism sale}$$

Step 3 examined the relationship between the increase in international tourism sales, the increase in foreign tourists, and the increase in overnight tourists using the following regression equation:

$$\text{Sale} = \text{Constant} + B_1 * \text{Overnight} + B_2 * \text{Person}$$

where

Overnight = % Increase in foreign tourist overnight

Sale = % Increase in international tourism sales

Person = % Increase in foreign tourists

Research Findings

Table 1 summarizes the results relevant to step 1.

Table 1
Regression results relevant to step 1

Model Tested: Sale = Constant + B*Overnight where Overnight = % Increase in foreign tourist overnight Sale = % Increase in international tourism sales					
Multiple R = 0.45698 R Square = 0.20883 Adjusted R Square = 0.16488 Standard Error = 13.47598					
<i>Analysis of Variance</i>					
	DF	Sum of Squares	Mean Square		
Regression	1	862.8224	862.82235		
Residuals	18	3268.8376	181.60209		
F = 4.75117 Sig. F = 0.0428					
<i>Variables in the Equation</i>					
Variable	B	Std. Error B	Beta	T	Sig. T
Overnight	0.519560	0.238361	0.456981	2.180	0.0428
Constant	12.701531	4.403276		2.885	0.0099

As shown in Table 1, the Multiple R of increase in international tourism sales is 0.46 and its critical F value is 4.75 with 1/18 degree of freedom. The coefficient (B) of the

independent variable (Increase in foreign tourist overnight) is 0.52 with a critical T value of 2.18 and a T-significance of $0.04281 = 2.89$. The estimated regression equation for the relationship between international tourism sale increase and overnight tourist increase is:

$$(\% \text{ Increase in International Tourism Sales}) = 12.7 + 0.52 (\% \text{ Increase in foreign tourist overnight})$$

Table 2 summarizes the regression results relevant to step 2.

Table 2
Regression results relevant to step 2

Model Tested: Sale = Constant + B*Person					
where					
Person = % Increase in foreign tourist					
Sale = % Increase in international tourism sales					
Multiple R = 0.41117					
R Square = 0.16906					
Adjusted R Square = 0.12290					
Standard Error = 13.81051					
<i>Analysis of Variance</i>					
	DF	Sum of Squares	Mean Square		
Regression	1	698.5158	698.51583		
Residuals	18	3433.1442	190.73023		
F = 3.66232 Sig. F = 0.0717					
<i>Variables in the Equation</i>					
Variable	B	Std. Error B	Beta	T	Sig. T
Person	0.420932	0.219955	0.411174	1.914	0.077
Constant	12.86443	4.721717		2.725	0.0139

As shown in Table 2, the multiple R of International Tourism Sales Increase is 0.41. The critical F value is 3.67 with 1/18 degree of freedom. The coefficient of the independent variable (Increase in foreign tourists) is 0.42 with a T value of 1.914 and a T-significance of 0.07. The estimated relationship between international tourism sale increase and foreign tourist growth is:

$$(\% \text{ Increase in international tourism sale}) = 12.87 + 0.42(\% \text{ Increase in foreign tourists})$$

Table 3 summarizes the results relevant to step 3.

Table 3
Regression results relevant to step 3

Model Tested: $\text{Sale} = \text{Constant} + B_1 \cdot \text{Overnight} + B_2 \cdot \text{Person}$					
where					
Overnight = % Increase in foreign tourist overnight					
Sale = % Increase in international tourism sales					
Person = % Increase in foreign tourists					
Multiple R = 0.49095					
R Square = 0.24103					
Adjusted R Square = 0.15174					
Standard Error = 13.58154					
<i>Analysis of Variance</i>					
	DF	Sum of Squares	Mean Square		
Regression	2	995.8700	497.93501		
Residuals	17	3135.7900	184.45823		
F = 2.69945 Sig. F = 0.0959					
<i>Variables in the Equation</i>					
Variable	B	Std. Error B	Beta	T	Sig. T
Person	0.225480	0.265494	0.220353	0.849	0.4075
Overnight	0.374363	0.294852	0.329273	1.270	0.2213
Constant	10.995759	4.871114		2.257	0.0374

As shown in Table 3, the Multiple R of the dependent variable (increase in international tourism sales) is 0.49. Its critical F is 2.7 with 2/17 degree of freedom. The estimated relationship to forecast China's future growth in international tourism sales is:

$$\text{Sale} = 10.998 + 0.374 \cdot (\text{Overnight}) + 0.225 \cdot (\text{Person})$$

where

Sale = % Increase in China's International Tourism Sales

Overnight = % Increase in foreign tourists overnight in China

Person = % Increase in foreign tourists in China

The restricted data set (20 years of annual data) is certainly a major limitation of these regression analyses. The low explanatory power of the models suggests that probably some other variables affecting international tourism in China could be included in the analyses as long as the degrees of freedom are not lost significantly.

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